

### **Abstract**

The invention provides methods for stabilizing 5-azacytidine against hydrolysis in plasma. By extracting the 5-azacytidine into acetonitrile and zinc sulfate, the 5-azacytidine can be stored for at least about 3 hours at about room temperature, and for at least about 4 days at about -70°C. If the acetonitrile is removed and evaporated to dryness, the 5-azacytidine in the resulting residue is stable for at least about 14 months at about -70°C. The invention also provides methods for determining the 5-azacytidine in acetonitrile, or in the acetonitrile residue, using, for example, high-performance liquid chromatography. The methods of the invention permit a significant time interval between the initial processing of the whole blood sample and the time of 5-azacytidine determination.